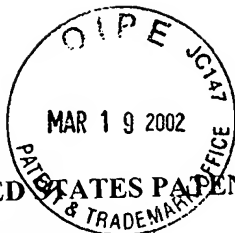


Docket No. 217474US0/sdc/atp



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Kenji YAMAMOTO, et al.

SERIAL NO: 10/025,653

GAU: 1755

FILED: December 26, 2001

EXAMINER:

FOR: HARD FILM FOR CUTTING TOOLS, CUTTING TOOL COATED WITH HARD FILM, PROCESS FOR FORMING  
HARD FILM, AND TARGET USED TO FORM HARD FILM

RECEIVED  
MAR 21 2002  
TC 1700  
#390  
J.D.  
4-12-02

INFORMATION DISCLOSURE/RELATED CASE STATEMENT UNDER 37 CFR 1.97

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

Norman F. Oblon

Registration No.

24,618

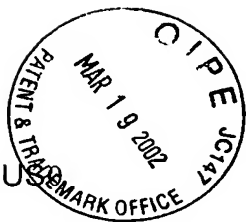


22850

Tel. (703) 413-3000  
Fax. (703) 413-2220  
(OSMMN 10/98)

William E. Beaumont

Registration Number 30,996



DOCKET NO: 217474U

Sheet 1 of 4

SERIAL NO: 10/025,653

Group Art Unit: 1755

STATEMENT OF RELEVANCY

**Reference AA (US 6,033,734) on Form 1449:**

This reference relates to a method of coating metallic and ceramic substrates.

**Reference AB (US 6,071,560) on Form 1449:**

This reference relates to a tool with tool body and protective layer system.

**Reference AC (US 5,126,030) on Form 1449:**

This reference relates to an apparatus and method of cathodic arc deposition.

**Reference AD (JP 9-256138) on Form 1449:**

This reference relates to a titanium-base alloy member excellent in oxidation resistance and wear resistance.

**Reference AE (JP 4-128363) on Form 1449:**

This reference relates to a composite material having superior wear and heat resistance by forming a Ti-Al-Cr-N coating film having a specified composition on the surface of a base material.

**Reference AF (JP 7-188901) on Form 1449:**

This reference relates to a coating hard alloy containing elements having hardness lower than that of TiN and TiAlN and allowing the same to enter into solid solution.

**Reference AG (JP 7-197235) on Form 1449:**

This reference relates to a member coated with wear resistant film containing Al, Ti, N and C in specific proportions on the surface of a base material.

**Reference AH (JP 7-237010) on Form 1449:**

This reference relates to a surface coated cutting tool with excellent wear resistance.

**Reference AI (JP 7-310174) on Form 1449:**

This reference relates to a hard film, hard film coated tool and hard film coated member excellent in wear resistance.



DOCKET NO: 217474US0

Sheet 2 of 4

SERIAL NO: 10/025,653

Group Art Unit: 1755

STATEMENT OF RELEVANCY

**Reference AJ (JP 8-209335)on Form 1449:**

This reference relates to a coated hard member having a film of improved wear resistance and breaking resistance by specifying the X-ray diffraction pattern of a film.

**Reference AK (JP 9-041127)on Form 1449:**

This reference relates to a to a hard film having a composition represented by  $(\text{All-y, Xy})\text{Z}$ , where X and Z mean one element among Cr, V and Mg and one element among N, C, B, Cn, BN, and CBN respectively.

**Reference AL (JP 9-256138)on Form 1449:**

This reference relates to a titanium-base alloy member excellent in oxidation resistance and wear resistance.

**Reference AM (JP 9-300105)on Form 1449:**

This reference relates to a throw-away inset of surface coated super-hard alloy.

**Reference AN (JP 9-323205)on Form 1449:**

This reference relates to a multilayer coated hard tool.

**Reference AO (JP 10-025566)on Form 1449:**

This reference relates to a formation of composite hard film excellent in high temperature oxidation resistance by ion plating.

**Reference AP (JP 10-251831)on Form 1449:**

This reference relates to a cutting tool made of surface-coating cemented carbide excellent in wear resistance.

**Reference AQ (JP 11-006056)on Form 1449:**

This reference relates to a target containing intermetallic compound, and manufacture of hard covered member using it.



DOCKET NO: 217474US0

Sheet 3 of 4

SERIAL NO: 10/025,653

Group Art Unit: 1755

STATEMENT OF RELEVANCY

**Reference AR (JP 11-036063)on Form 1449:**

This reference relates to an arc type evaporating source having a wide film forming region of high film thickness uniformity and long in the service life of the cathode.

**Reference AS (JP 11-131215)on Form 1449:**

This reference relates to a coated hard tool, the film specifying the ratio of the diffraction intensity between the (200) plane and the (111) plane in the X-ray diffraction of compound.

**Reference AT (JP 11-131216)on Form 1449:**

This reference relates to a coated hard tool, the film specifying the ratio of the diffraction intensity between the (200) plane and the (111) plane in the X-ray diffraction of compound.

**Reference AU (JP 2000-038653)on Form 1449:**

This reference relates to a die or mold have surface film composed of (Ti(1-x-y) Crx AlyN {(x) and (y) are value specifying  $0.02 \leq x < 1.0$ , and  $0.02 \leq y \leq 0.7$ }).

**Reference AV (JP 2000-144376)on Form 1449:**

This reference relates to a film excellent in sliding characteristic.

**Reference AW (JP 2000-328236, corr. USSN 09/480,164) on Form 1449:**

This reference relates to an arc vaporization source and vacuum vaporization device.

**Reference AX (JP 2001-172763)on Form 1449:**

This reference relates to a method of forming metal-containing hard carbon film.

**Reference AY (JP 2001-234328)on Form 1449:**

This reference relates to a combined hard coating member, coating layer including a combined hard coating of at least one kind among Ti and Al containing compound nitrides, compound carbides, compound carbonitrides, compound nitroxides, compound carboxides and compound carbonitroxides.

DOCKET NO: 217474US0



Sheet 4 of 4

SERIAL NO: 10/025,653

Group Art Unit: 1755

STATEMENT OF RELEVANCY

**Reference AZ (JP 2001-254187) on Form 1449:**

This reference relates to a hard film-coated member containing at least Al, Ti, Cr, N and O by one or more layers.

**Reference BA (JP 2644710 (8-209333)) on Form 1449:**

This reference relates to a wear resistant film coated member.

**Reference BB (JP 2901049 (8-134635)) on Form 1449:**

This reference relates to an aluminum-titanium alloy target material for dry-process vapor deposition.

**Reference BC (by A. KIMURA, et al.) on Form 1449:**

This reference relates to an effects of Al content on hardness, lattice parameter and microstructure of  $\text{Ti}_{1-x}\text{Al}_x\text{N}$  films.

**Reference BD (by A. SUGISHIMA, et al.) on Form 1449:**

This reference relates to a phase transition of pseudobinary Cr-Al-N films deposited by magnetron sputtering method.